

NO FURTHER ACTION DETERMINATION

The U. S. Department of Energy, U. S. Environmental Protection Agency-Region 10, and the State of Idaho have completed a review of the referenced information for CFA-23 hazardous site, as it pertains to the INEL Federal Facility Agreement of May 23, 1991. Based on this review, the Parties have determined that no further action for purposes of investigation or study is justified. This decision is subject to review at the time of issuance of the Record of Decision.


Brief Summary of the basis for no further action:

All three (3) Remedial Project Managers (RPMs) concurred that, based on sampling data available, historical information presented, and the extremely improbable potential for amounts of hazardous substances to have been released which would cause groundwater contamination, no further action should be pursued at CFA-23.

References:

Decision Statement by DOE RPM dated August 7, 1991.
Decision Statement by EPA RPM dated August 7, 1991.
Decision Statement by the State of Idaho RPM dated August 7, 199.

DOE Project Manager



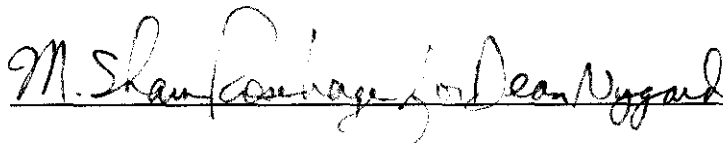
8/8/91
date

EPA Project Manager



8/8/91
date

IDAHO Project Manager



8/8/91
date

DECISION STATEMENT
(BY EPA RPM)

DATE RECD:

8/7/91

DISPOSITION:

CFA-23 represents a potential source area limited to ≈ 55 gal diesel w/ \approx less than 10% BTEX soil cleanup level for benzene is 20 ppm. Groundwater cleanup level at MCL is 5 ppb. Associated piping and tank removed in 10/90 area back-filled with clean soil. Estimated source area 2.16 yd^3 of 30 gal residual liquid can be assumed to be that remaining. If we assume 1 ppm benzene in soil as a conservative starting point Given solubility exceeding 1 ppm in water there is no basis for further concern

I agree that No Further Remedial Action is necessary for this site

DATE:

8/7/91

PAGES (DECISION STATEMENT):

NAME:

Wayne Pierce

SIGNATURE:

Wayne Pierce

DECISION STATEMENT
(BY STATE RPM)

DATE RECD:

8/7/91

DISPOSITION:

State agrees that no further
remedial action is necessary at
the CFA-23 site, based on
the same information stated
in the EPA decision statement
and Decision Documentation
Package submitted 8/7/91.

DATE: 8/7/91

PAGES (DECISION STATEMENT):

NAME: Shawn Rosenberger

SIGNATURE: Shawn Rosenberger for Dean Nygard

for Dean Nygard

DECISION STATEMENT
(BY DOE RPM)

DATE RECD:

DISPOSITION:

Based on sampling data available, historical information presented, and extremely ~~unlikely~~ improbable potential for ~~any~~ amounts of hazardous substances to have been released which would cause groundwater contamination, I believe no further action should be pursued on CFA-23.

DATE: 8/07/91

PAGES (DECISION STATEMENT):

NAME: Lisa Green for
Jerry Lyle

SIGNATURE: Lisa Green for Jerry Lyle

DECISION DOCUMENTATION COVER SHEET

PREPARED IN ACCORDANCE WITH

TRACK 1 SITES:
GUIDANCE FOR ASSESSING
LOW PROBABILITY HAZARD SITES
AT THE INEL

SITE DESCRIPTION: SITE OF UNDERGROUND STORAGE TANK CFA 641-1

SITE ID: CFA-23

OPERABLE UNIT: 4-03

WASTE AREA GROUP: 4

I. SUMMARY - PHYSICAL DESCRIPTION OF THE SITE:

COCA site CFA-23 was the location of a 55 gallon steel underground storage tank (UST) designated CFA 641-1. The tank was installed in 1949 immediately adjacent to CFA-641, the potable water pumphouse, and contained diesel fuel used for heating purposes. In 1975 the tank was abandoned.

Following Tank Management Program (TMP) removal procedures for USTs, the tank was exhumed October 1990. The tank excavation site and excavated soils were tested on site with a photoionization detector. The highest reading obtained was 17.9 ppm, well below the field screening action level of 50 ppm. Although there was no apparent evidence of leakage, soil samples were taken by Environmental Technology as outlined by the removal procedures. Biased samples were collected along the keel line and at points along the outer edge of the tank. After the tank was removed the pit was backfilled with clean soil and leveled.

Laboratory analyses of the soil samples confirmed the field screening results. Analysis of detected benzene, toluene, ethylbenzene, and xylene (BTEX) yielded a maximum 9 ppm. Analysis of total petroleum hydrocarbons (TPH) yielded a maximum of 100 ppm. Action levels for BTEX and TPH for the TMP are 80 ppm and 800 ppm.

Both field screening results and laboratory analyses support the conclusion that this site does not represent a hazard at unacceptable levels of risk. Comments from a February 1991 site visit indicate the site is clean and level, and the COCA CFA-23 sign is posted as required.

Site description: Give a brief description and/or common name for the site.

Site ID: IAG site code.

Operable Unit: Identify the OU based on WAG information. An operable unit may consist of many sites.

Waste Area Group: WAGs are denoted by numbers 1 to 10.

I. SUMMARY - Physical description of the site: Summarize the series of answers for columns 1 to 3 on the process/waste worksheet. This portion of the worksheet is intended to be a summary of information, NOT the information itself.

DECISION RECOMMENDATION

II. SUMMARY - QUALITATIVE ASSESSMENT OF RISK:

The level of reliability of the information collected is high, and the qualitative assessment of risk is low. The data were collected and confirmed following documented procedures and no conflicting information is apparent. Plotting these appraisals on the Qualitative Risk and Reliability Evaluation Table yields intersection in the "no action" portion of the chart.

III. SUMMARY - CONSEQUENCES OF ERROR:

If no further action is taken and undetected hazardous constituents exist at the site, there may be the potential for migration via the groundwater pathway resulting in higher risk than anticipated. In the worst case, if the tank had contained its maximum volume (55 gallons) when it was abandoned in 1975 and 30 gallons were pumped out of the tank in 1990, then at most 25 gallons of fuel could have been released to the environment over the last 15 years. The calculated volume of contaminated soil for a 25 gallon diesel fuel spill is 2.16 cubic yards. The potential for ingestion does not exist since the tank has been removed and the site backfilled with clean soil.

Further remediation on a clean site would result in a low return in environmental benefit from a high investment in clean up expenditures.

IV. SUMMARY - OTHER DECISION DRIVERS:

No other decision drivers are apparent for this site.

RECOMMENDED ACTION:

Site CFA-23 should be reclassified to "no action" status and removed from the universe of solid waste management units. Analytical results from representative samples confirm that the site presents no hazard above acceptable levels of risk. Adequate remediation was performed during the tank removal process, and the site appears clean and level. Further action on this site would require expenditure of funds that could be dedicated to remediation elsewhere with a higher return in environmental benefits.

SIGNATURES	# PAGES:	DATE:
Prepared By:	DOE WAG Manager:	
Approved By:	Independent Review:	

II. SUMMARY - Qualitative Assessment of Risk: Summarize the approximate qualitative risk (col 8) and the level of reliability in the information used to derive the qualitative risk (col 9). Based on those two factors, use the qualitative risk and reliability evaluation table and record the suggested action. Summarize the information garnered by completing the process/waste and contaminant worksheets and the recommendation from the qualitative risk and reliability evaluation table in terms of the qualitative risk involved at this particular site.

III. SUMMARY - Consequences of Error: By answering the following questions, summarize the consequences of making either a false positive or a false negative error. This question requires serious thought in considering the consequences of incorrect decisions. At several points in the process, carefully considered evaluations are required. This question is one of those.

What are the potential consequences of incorrectly deciding the site is not a problem (false negative error)? Example: If we incorrectly decide NOT to clean up the site, the worst that could happen is that a small amount of volatile organics may reach the aquifer in 20 years.

What are the potential consequences of incorrectly deciding that the site is a problem (false positive error)? Example: If we incorrectly decide to remediate with a pump and treat type of technology, we could spend millions of dollars needlessly.

IV. SUMMARY - Other Decision Drivers: Assess the existence and relevance of other decision drivers. For example, the current and likely future land uses for this site may be relevant. (These will be listed in the site development plan for INEL.)

Recommended action: Based on the results of each of the preceding four steps, recommend an action. Explain the rationale for the recommendation.

PROCESS/WASTE WORKSHEET**SITE ID** CFA-23

Col 1 Processes Associated with this Site	Col 2 Waste Description & Handling Procedures	Col 3 Description & Location of any Artifacts/Structures/Disposal Areas Associated with this Waste or Process
Fuel storage in a UST	#1 diesel fuel, typically filled from a truck	Artifact: tank Location: now removed, was located west of CFA-641 Description: 55 gallon steel tank
		Artifact: associated piping Location: now removed, was located west of CFA-641 Description: fill pipe, vent pipe, and fuel line
		Artifact: abandoned electrical line found during excavation Location: now removed, was located west of CFA-641 Description: electrical wire encased in concrete conduit

- Col 1: Complete question sheets 1 & 2 then list the processes associated with this site. If more room is needed (i.e., there are more than 3 processes) use another sheet and clearly number the contaminant worksheet pages. Some examples of processes are: paint shop, storage facility, waste pond, construction site, machine shop. Knowing the processes that have historically been associated with a site provides clues for determining what wastestreams to look for and what hazardous components/substances to expect. The tables in Appendix A constitute a useful source of information.
- Col 2: For the purposes of this document, waste can be considered to be any material/substance that is deposited at the site, such as construction rubble, spilled diesel fuel, wastewater from a process, and spent fuel pellets. Describe the waste from the process and describe the handling procedures for that waste. For instance, the waste at the BORAX trash dump is construction/demolition rubble and reports indicate that workers hand sorted the rubble to separate different materials. During the demolition it was noticed that some of the construction debris contained asbestos and the handling procedures were appropriately modified. This implies two things: (1) the waste was not radioactive in nature and (2) the waste has asbestos as a hazardous component. Table 3 in Section 4 represents one useful source of information for identifying waste. Others include any summary assessments that may be in draft form and facility SOPs.
- Col 3: For the purpose of this document, an artifact is any man-made physical manifestation of contaminant disposal, such as stained ground, burn marks, dirt piles, and rubble heaps. A structure is any constructed edifice, such as a well, a lagoon, a piping system, a building, and a fence. Knowledge of the existence and location of existing structures and artifacts helps to identify possible sources, indicates possible contaminants, and guides the search for further information. If there are more than three artifacts/structures associated with a particular site, then use additional forms (or use the electronic version) and clearly indicate which process is associated with the artifacts.

CONTAMINANT WORKSHEET**SITE ID** CFA-23**PROCESS** (col 1) Underground Storage Tank**WASTE** (col 2) Diesel Fuel

Col 4 What known/potential hazardous substances/constituents are associated with this waste or process?	Col 5 Potential sources associated with this hazardous material	Col 6 Known/estimated concentration of hazardous substances/constituents ^a	Col 7 Risk based concentration mg/kg	Col 8 Qualitative risk assessment (Hi/Med/Lo)	Col 9 Overall reliability (Hi/Med/Lo)
Benzene	Contaminated soil	ND,DL=5	2.1E-3	Low	Hi
Ethyl benzene	Contaminated soil	ND,DL=5	3.61E1	Low	Hi
Toluene	Contaminated soil	9ppm	2.1E1	Low	Hi
P-xylene	Contaminated soil	ND,DL=10	5.30E3	Low	Hi
M-xylene	Contaminated soil	ND,DL=10	3.87E3	Low	Hi
O-xylene	Contaminated soil	ND,DL=10	3.23E4	Low	Hi
TPH ^b	Contaminated soil	100ppm	--	Low	Hi

a. ND = not detected,
DL = detection limit in ppm

b. Total petroleum hydrocarbons were laboratory analyzed, but due to the intricacies generated by site specific considerations, a risk based concentration was not calculated. Since 100 ppm were detected and the action level is 800 ppm, the effort required to determine a risk based concentration was not warranted.

General: Notice that this worksheet is associated with one process and one waste. Each contaminant is treated independently.

- Col 4: Identify the known and potential hazardous substances or constituents that are associated with the waste. For instance, benzene is typically a hazardous component of diesel fuel and asbestos is commonly a hazardous component of building rubble. Table 3 in Section 4 is one source of information that may be helpful.
- Col 5: Complete question sheets 3, 4 & 5. Question sheet 3 will help to identify evidence that there has been a migration of waste components. If there is evidence of migration, question 4 helps to evaluate the existence/non-existence of a source. Some examples of sources are contaminated soil, contaminated perched water zones, and contaminated airborne dust. Question 5 examines the extent and distribution of contamination at the source. If there is no source, question 5 is not applicable.
- Col 6: Complete question sheets 6 & 7. Question 6 will provide the volumetric measure of the source, and Question 7 will provide the quantity of hazardous substance thought to be at the source. The ratio (amt of contaminant / volume of source) will give an estimate of the concentration of the hazardous substance. If there exist analytical data, a conservative sample analysis may be used to estimate the concentration. For sample analyses with concentrations below detection limits, write 'ND' (not detected) and the detection level. Be sure to include units.
- Col 7: The risk assessment professional(s) will provide an estimate of the concentration of the hazardous substance necessary to pose a risk $> 10^{-6}$ under the relevant scenarios similar to Table D-1. Choose the lowest concentration (in Table D-1 this is $1.35E+04$ mg/kg) and enter it in col 7. Be sure to include units.
- Col 8: Complete Question sheet 8. Compare the concentration in col 6 with the concentration in col 7. There are now two important pieces of information available: the ratio of known concentration vs. risk based concentration and the presence or absence of the contaminant in the source today. Based on these two pieces of information, evaluate the risk as low, medium, or high. Recall that this is a qualitative risk analysis, so at this point there are no rigorous analytical techniques available to measure the risk.
- Col 9: An estimate of the reliability was made as the eight question sheets were being completed. Consider the aggregate of the information in conjunction with the current presence or absence of hazardous substances and assign an overall reliability of high, medium, or low. (e.g., 6 high, 2 medium, and 0 low would imply high overall confidence in the qualitative assessment.)

Table D-1. Summary of risk-based soil screening concentrations for barium

Exposure	Scenarios			
	Occupational		Residential	
Pathways	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil ingestion	--	1.00E+05	--	1.35E+04
Inhalation of fugitive dust	--	2.70E+04	--	1.90E+04
Inhalation of volatiles	--	--	--	--
Groundwater ingestion	N/A	N/A	--	1.94E+04

Summary of Contaminant-Specific Parameters for CFA 641-1

Parameter	Contaminant					
	Benzene	Ethylbenzene	Toluene	m-xylene	o-xylene	p-xylene
Toxicity Measures						
RfD ^a _{inh}	ND	ND	ND	.2	.2	.1
RfD ^a _{oral}	ND	0.1	0.2	2	2	ND
Slope Factor ^b _{inh}	2.9E-2	ND	ND	ND	ND	ND
Slope Factor ^b _{oral}	2.9E-2	ND	ND	ND	ND	ND
Other						
Kd (cm ³ /g)	0.25	3.3	1	3	2.5	NA
Henry's Constant (atm-m ³ /mol)	5.59E-3	NA	NA	1.07E-2	5.10E-3	7.05E-3
Diffusion Coefficient (cm ² /sec) @ 10°C	0.08195	NA	NA	.06742 @ 10°C	.06742 @ 10°C	.06742 @ 10°C
Half-Life (yr)	ND	ND	ND	ND	ND	ND

a. Expressed as mg/kg/d

b. Expressed as (mg/kg/d)⁻¹

NA = Not Applicable

ND = Not Determined (no published toxicity value)

Summary Table of Risk-Based Soil Screening Concentrations* for CFA 641-1

Exposure Pathway	Contaminant	Scenario			
		Occupational		Residential	
		Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	Benzene	1.97E2	--	2.21E1	--
	Ethylbenzene	--	2.00E5	--	2.70E4
	Toluene	--	4.00E5	--	5.40E4
Fugitive Dust Inhalation	Benzene	5.62E5	--	3.42E5	--
	Ethylbenzene	--	--	--	--
	Toluene	--	--	--	--
Volatile Inhalation	Benzene	2.81E3	--	1.87E3	--
	Ethylbenzene	--	--	--	--
	Toluene	--	--	--	--
Groundwater Ingestion	Benzene	NA	NA	2.1E-3	--
	Ethylbenzene	NA	NA	--	3.6E1
	Toluene	NA	NA	--	2.1E1

* No credit for chemical degradation was taken.

NA = Not Applicable.

-- = Calculation not performed because of no published toxicity value.

Shaded box = Lowest risk-based soil concentrations.

Summary Table of Risk-Based Soil Screening Concentrations* for CFA 641-1 (cont'd)

Exposure Pathway	Contaminant	Scenario			
		Occupational		Residential	
		Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)	Soil Concentration at 1E-06 Risk (mg/kg)	Soil Concentration at HQ = 1 (mg/kg)
Soil Ingestion	m-xylene	--	4.00E6	--	5.40E5
	o-xylene	--	4.00E6	--	5.40E5
	p-xylene	--	--	--	--
Fugitive Dust Inhalation	m-xylene	--	1.19E9	--	8.62E8
	o-xylene	--	1.19E9	--	8.62E8
	p-xylene	--	5.96E8	--	4.29E8
Volatile Inhalation	m-xylene	--	1.62E7	--	1.29E7
	o-xylene	--	2.16E7	--	1.72E7
	p-xylene	--	5.30E6	--	7.51E6
Groundwater Ingestion	m-xylene	NA	NA	--	6.46E2
	o-xylene	NA	NA	--	5.38E2
	p-xylene	NA	NA	--	--

* No credit for chemical degradation was taken.

NA = Not Applicable.

-- = Calculation not performed because of no published toxicity value.

Shaded box = Lowest risk-based soil concentrations.

QUALITATIVE RISK AND RELIABILITY EVALUATION TABLE			
	QUALITATIVE RISK		
	Low	Medium	High
HIGHLY UNRELIABLE	screening data		screening data
HIGHLY RELIABLE	TRACK II		
	No ACTION REQUIRED	RI/FS	INTERIM ACTION*
reliability	LOW concentration resulting in risk < 10^{-6}	MEDIUM	HIGH concentration resulting in risk > 10^{-4}
qualitative risk			

* If there exist sufficient data to identify an appropriate remedy.

intersection in the
"no action required"
area for all
constituents of concern
at CFA-23

Horizontal Axis: The horizontal axis represents the qualitative risk assessment in terms of a continuum from high to low. High means that the concentration estimated in col. 6 is significantly higher than the risk based concentration calculated in col. 7. Low means that the concentration estimated in col. 6 is significantly lower than the risk based concentration calculated in col. 7. Draw a 'squiggly' vertical line (or some other representation) for EACH contaminant of concern listed in col. 4 and clearly identify the contaminant associated with the line. (The purpose of a 'squiggly' line rather than a straight line is to emphasize the qualitative nature of the chart.)

Vertical Axis: The vertical axis represents the overall level of reliability calculated in col. 9. Draw a 'squiggly' horizontal line (or some other representation) for each contaminant listed in col. 4 and clearly identify the contaminant associated with the line. (The purpose of a 'squiggly' line rather than a straight line is to emphasize the qualitative nature of the chart.)

The intersections of the line pairs for each contaminant will provide an initial recommendation pertinent to each contaminant. The overall risk/reliability picture for a site will consist of one or more pairs of lines, each with an initial recommendation. The interaction and significance of these initial recommendations will help to determine an initial recommendation for the site. This recommendation will be summarized in II. SUMMARY - Qualitative Assessment of Risk.

Question 1. What are the waste generation process locations and dates of operation associated with this site?

Block 1 Answer:

Site CFA-23 was the location of a 55 gallon steel underground storage tank designated CFA 641-1. The tank was immediately adjacent to the west side of building CFA-641, the potable water pumphouse. CFA 641-1 was installed in 1949 to store fuel used for heating the pumphouse, and was active until abandoned in 1975. The potential wastes associated with this site were the diesel fuel pumped from the tank, the tank and associated piping, and any soil that may have been contaminated from leakage or spillage.

The CFA-23 Initial Assessment describes this tank as a 500 gallon tank. This is an error. TMP records indicate the size of the tank was 55 gallons. The capacity was confirmed when the tank was exhumed.

Incidental to the tank removal was the discovery of an abandoned electrical line. The conduit and wire were removed from the excavation.

Block 2

How reliable is/are the information source/s? High Med Low (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Information was obtained from the tank management program.

Block 3 Has this INFORMATION been confirmed Yes No (circle one)

IF SO, DESCRIBE THE CONFIRMATION.

The tank was later removed in October 1990, confirming its existence, location, and size.

Block 4 **SOURCES OF INFORMATION:** (check appropriate box/es & number the source/s)

No available information	[]	_____	Analytical data	[]	_____
Anecdotal	[]	_____	Documentation about data	[]	_____
Historical process data	[X]	6, 8	Disposal data	[]	_____
Current process data	[]	_____	Q.A. data	[]	_____
Aerial photographs	[X]	included	Safety analysis report	[]	_____
Engineering/site drawings	[X]	6	D&D report	[]	_____
Unusual Occurrence Report	[]	_____	Initial assessment	[X]	8
Summary documents	[X]	6	Well data	[]	_____
Facility SOPs	[]	_____	Construction data	[]	_____
OTHER	[X]	4			

- Block 1: Identify the waste generation process locations that are associated with this site. One useful source for this information is Appendix A. A refueling facility 1.5 miles northeast of TAN, operating from 1968 to 1976, would be an example of a waste generation process.
- Block 2: Consider the information sources that were used to identify the waste generation process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium, or low), carefully explain the reasoning that led to the evaluation.
- Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.
- Block 4: Check each appropriate box. As a box is checked, write the number of the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

Question 2. What are the disposal process locations and dates of operation associated with this site? How was the waste disposed?

Block 1 Answer:

M CFA 641-1 was installed in 1949 and was active until abandoned in 1975. On October 9, 1990, 30 gallons of fuel were removed from the tank by H2H Oil for fuel recovery. The tank was exhumed on October 16, 1990 and sent to Pacific Steel in Idaho Falls for scrap. The disposition of the associated piping was not specifically addressed in tank removal documentation, but photographs clearly indicate that the fill and vent pipes were removed from the excavation. The fuel line consisted of two small pieces of copper tubing. Conjecture is, the small amount of pipe concerned was disposed in a bulk shipment of miscellaneous scrap. Since there was no soil contamination detected above field screening levels (50 ppm), no soil was removed or disposed.

The materials from the abandoned electrical line were also disposed. The wire, since it had a lead coating, was shipped off site for hazardous waste disposal. The concrete conduit was sent to the bulky waste landfill.

Block 2

How reliable is/are the information source/s? High Med Low (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Information was obtained from the Tank Removal Summary which is supported by logsheets, disposition forms, analytical data, and removal procedures for USTs. The job site supervisor corroborated the information concerning the piping.

The procedure for removal and disposition of the abandoned electrical line was discussed in an interoffice memo which is included in the project file. Confirmation of the ultimate fate of the lead coated wire was obtained from the job site supervisor.

Block 3 Has this INFORMATION been confirmed?

Yes

No

(circle one)

IF SO, DESCRIBE THE CONFIRMATION.

The Tank Removal Summary was reviewed by Environmental Technology Unit personnel.

Block 4 **SOURCES OF INFORMATION:** (check appropriate box/es & number the source/s)

No available information	[]		Analytical data	[X] 5
Anecdotal	[]		Documentation about data	[]
Historical process data	[X] 5, 7		Disposal data	[X] 5, 6
Current process data	[]		Q.A. data	[]
Aerial photographs	[X] Included		Safety analysis report	[]
Engineering/site drawings	[X] 5		D&D report	[]
Unusual Occurrence Report	[]		Initial assessment	[X] 8
Summary documents	[X] 5			
Facility SOPs	[]		Well data	[]
OTHER	[X] 2, 4, 7		Construction data	[]

- Block 1: Identify the disposal process locations that are associated with this site. One useful source for this information is Appendix A. Describe the disposal procedures for this waste.
- Block 2: Consider the information sources that were used to identify the disposal process locations and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium, or low), carefully explain the reasoning that led to the evaluation.
- Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.
- Block 4: Check each appropriate box. As a box is checked, write the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

Question 3. Is there empirical, circumstantial, or other evidence of migration? If so, what is it?

Block 1 Answer:

There is no evidence of migration.

Block 2

How reliable is/are the information source/s? High Med Low (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Not applicable.

Block 3 Has this INFORMATION been confirmed? Yes No (circle one)

IF SO, DESCRIBE THE CONFIRMATION.

Not applicable.

Block 4 **SOURCES OF INFORMATION:** (check appropriate box/es & number the source/s)

No available information	[] _____	Analytical data	[] _____
Anecdotal	[] _____	Documentation about data	[] _____
Historical process data	[] _____	Disposal data	[] _____
Current process data	[] _____	Q.A. data	[] _____
Areal photographs	[] _____	Safety analysis report	[] _____
Engineering drawings	[] _____	D&D report	[] _____
Unusual Occurrence Report	[] _____	Initial assessment	[] _____
Summary documents	[] _____	Well data	[] _____
Facility SOPs	[] _____	Construction Data	[] _____
OTHER	[] _____		

- Block 1: Evidence of migration may be anything from "...there was some strange powder on the plant leaves that were downwind of those buildings..." to a representative and significant analytical data set. Given the resources available (e.g., reports, stories, and photographs), your search for evidence should be thorough. Don't stop analyzing the results of a search when one piece of evidence is found. There may be several other pieces of evidence associated with the specific contaminant and process. While one piece of evidence may or may not be conclusive, several independent pieces of evidence may very well be conclusive.
- Block 2: Consider the information sources that were used to identify the existence of contaminant migration and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.
- Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.
- Block 4: Check each appropriate box. As a box is checked, write the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

Question 4. Is there evidence that a source exists at this site? If so, list the sources and describe the evidence.

Block 1 Answer:

There is no evidence that a source exists at this site. The tank has been removed and there is no evidence of residual soil contamination above the conservative TMP field action levels.

The CFA-23 Initial Assessment reports no evidence of leakage at this site, but lists the presence of 2.5 cubic yards (about 500 gallons) of liquid waste. It is unclear if this is an estimated amount of fuel remaining in the tank, an estimate of a quantity released to the soil, or something else. The 55 gallon tank was emptied of 30 gallons of remaining fuel in October 1990. There is no record of a leak or spill, and the site did not exhibit any physical evidence of contamination above action levels when the tank was exhumed. These considerations support the conclusion that there is no source.

In regard to the abandoned electrical line, no source exists since the electrical wire was encased in a concrete conduit. Both wire and conduit were removed and disposed.

Block 2

How reliable is/are the information source/s? High Med Low (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Logsheets written during the tank removal process journalize actual removal activities. The information from the initial assessment is questionable since it is unclear.

Block 3 Has this INFORMATION been confirmed?

Yes

No

(circle one)

IF SO, DESCRIBE THE CONFIRMATION.

The logbook for the tank removal was recorded and reviewed by TMP personnel.

Block 4 **SOURCES OF INFORMATION:** (check appropriate box/es & number the source/s)

No available information	[]	_____	Analytical data	[X]	5	_____
Anecdotal	[]	_____	Documentation about data	[]	_____	_____
Historical process data	[]	_____	Disposal data	[]	_____	_____
Current process data	[]	_____	Q.A. data	[]	_____	_____
Aerial photographs	[]	_____	Safety analysis report	[]	_____	_____
Engineering drawings	[]	_____	D&D report	[]	_____	_____
Unusual Occurrence Report	[]	_____	Initial assessment	[X]	8	_____
Summary documents	[X]	5	Well Data	[]	_____	_____
Facility SOPs	[]	_____	Construction data	[]	_____	_____
OTHER	[X]	3, 7				

Source: A source is a physically identifiable location causing ongoing contamination. For example, a perched water zone with tritium is a source since the tritium can be transported through the subsurface to the groundwater. A rubble pile with loose asbestos building materials is a source since the asbestos may be carried by the wind; however, a rubble pile that had a volatile organic spill may or may not contain a source. If the time since the spill is sufficient for the entire volume of the contaminant to volatilize, then there is no source. If the entire volume may not have volatilized, then the loose asbestos material in the rubble pile is a source and the rubble pile is the artifact.

Block 1: Using this definition of source, describe any evidence that a source exists at this particular site. Notice that there may be evidence of migration and no source (see question sheet 3). Likewise, there may be a source and no evidence of migration. A contaminated perched water zone resulting from an inactive injection well could show no evidence of migration but is still a source. So, this question is NOT the same question as question 3.

Block 2: Consider the information sources that were used to assess the existence of a source or sources at this site and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.

Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.

Block 4: Check each appropriate box. As a box is checked, write the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

Question 5. Does site operating or disposal historical information allow estimation of the pattern of potential contamination? If the pattern is expected to be a scattering of hot spots, what is the expected minimum size of a significant hot spot?

Block 1 Answer:

There is no expected pattern for potential contamination since there was no evidence of leakage or overspill when the tank was removed. Had there been a release, a hot spot around the release point would be expected.

Block 2

How reliable is/are the information source/s? High Med LOW (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

The field sampling data clearly indicate there was no contamination detected above action levels; therefore no contamination pattern can be expected.

Block 3 Has this INFORMATION been confirmed?

Yes

No

(circle one)

IF SO, DESCRIBE THE CONFIRMATION.

Field samples were confirmed by laboratory analysis.

Block 4 **SOURCES OF INFORMATION:** (check appropriate box/es & number the source/s)

No available information	[]	_____	Analytical data	[X]	5	_____
Anecdotal	[]	_____	Documentation about data	[]	_____	_____
Historical process data	[X]	5	Disposal data	[]	_____	_____
Current process data	[]	_____	Q.A. data	[]	_____	_____
Areal photographs	[]	_____	Safety analysis report	[]	_____	_____
Engineering drawings	[]	_____	D&D report	[]	_____	_____
Unusual Occurrence Report	[]	_____	Initial assessment	[X]	8	_____
Summary documents	[X]	5	Well data	[]	_____	_____
Facility SOPs	[]	_____	Construction data	[]	_____	_____
OTHER	[]	_____				

- Block 1: Review all available information about this site and consider other sites similar in nature to determine if it is feasible to estimate the pattern of potential contamination. The information in this answer will help to assess the overall certainty written in col. 9. For instance, if the expected minimum size of a hot spot is the same size as the OU and none of the three available samples indicated significant contamination, then the overall certainty in the qualitative analysis will be lower.
- Block 2: Consider the information sources that were used to estimate the pattern of potential contamination and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium or low), carefully explain the reasoning that led to the evaluation.
- Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.
- Block 4: Check each appropriate box. As a box is checked, write the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

Question 6. Estimate the length, width, and depth of the contaminated region. What is the known or estimated volume of the source? If this is an estimated volume, explain carefully how the estimate was derived.

Block 1 Answer:

There is no contaminated region to estimate since no contamination above action levels was detected.

If there had been a fuel oil spill or leak, the size of the contaminated region would be estimated. Suppose the 55 gallon tank was full when abandoned, 30 gallons were later removed, and therefore 25 gallons had been released to the soil. The resulting volume of contaminated soil would be approximately 2.16 cubic yards.

Block 2

How reliable is/are the information source/s? High Med Low (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Results from collected samples indicate any contamination present is below the TMP action level.

Block 3 Has this INFORMATION been confirmed?

Yes

No (circle one)

IF SO, DESCRIBE THE CONFIRMATION.

Lab results confirm the field screening data.

Block 4 **SOURCES OF INFORMATION:** (check appropriate box/es & number the source/s)

No available information	[]	_____	Analytical data	[X]	5	_____
Anecdotal	[]	_____	Documentation about data	[]	_____	_____
Historical process data	[X]	5	Disposal data	[]	_____	_____
Current process data	[]	_____	Q.A. data	[]	_____	_____
Aerial photographs	[]	_____	Safety analysis report	[]	_____	_____
Engineering drawings	[]	_____	D&D report	[]	_____	_____
Unusual Occurrence Report	[]	_____	Initial assessment	[X]	8	_____
Summary documents	[X]	5	Well data	[]	_____	_____
Facility SOPs	[]	_____	Construction data	[]	_____	_____
OTHER	[X]	attached volume				
estimate						

- Block 1: Although the estimate may be decidedly rough, it is necessary to provide some estimate of the length, width and depth of the affected region and the volume of the source. If there does not appear to be a source, then the obvious estimate must be 0 cubic meters. A very precise explanation of HOW the volume was calculated is essential if an estimate was used.
- Block 2: Consider the information sources that were used to estimate the volume of the source and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium, or low), carefully explain the reasoning that led to the evaluation.
- Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.
- Block 4: Check each appropriate box. As a box is checked, write the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

ESTIMATION OF VOLUME OF CONTAMINATED SOIL
FROM A FUEL OIL SPILL

A. S. ROOD

AUGUST 7, 1991

PROBLEM: What is the volume of contaminated soil which would result from a surface fuel oil spill?

ASSUMPTIONS:

- 25 GALLON DIESEL FUEL SPILL
- SOIL POROSITY = 0.35 (ρ) (Case et al., pg A-62)
- THE RESIDUAL SATURATION CAPACITY (RS) = 0.15

The residual saturation for fuel oils is approximately 33% of the water holding capacity of the soil. Dragun (1988) reports maximum RS values for different fuel oils.

Table 1. Residual Saturation (RS) values for different fuels.

Fuel	RS
light oil and gasoline	0.10
diesel and light fuel oil	0.15
lube and heavy fuel oil	0.20

The volume of soil contaminated by a spill is given by (Dragun, 1988)

$$V_s = \frac{0.2 \times V_{HC}}{\rho \times (RS)} \quad (1)$$

where V_s = Volume of contaminated soil at residual saturation (yd^3).

V_{HC} = volume of discharged hydrocarbons (barrels, 1 barrel = 44 gal)

ρ = soil porosity

RS = residual saturation

The volume contaminated by the spill is then

$$V_s = \frac{0.2 \times 25 \text{ gal}/[44 \text{ gal/barrel}]}{0.35 \times 0.15} = 2.16 \text{ yd}^3$$

References:

Case, M. J., Maheras, S. J. et al., Radioactive Waste Management Complex Performance Assessment. EG&G Idaho Informal Report, EGG-WM-8773, June, 1990, Page A-62

Dragun, James, Soil Chemistry of Hazardous Materials. Hazardous Materials Control Research Institute, Chapter 2, 1988.

Question 7. What is the known or estimated quantity of hazardous substance/constituent at this source? If the quantity is an estimate, explain carefully how the estimate was derived.

Block 1 Answer:

The estimated quantity of hazardous substance/constituent at this site is near zero since detected contamination was well below action levels.

Block 2

How reliable is/are the information source/s? High Med Low (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

TMP data and historical records indicate the size of the tank. Excavation confirmed the size of the tank and the condition of the site.

Block 3 Has this INFORMATION been confirmed Yes No (circle one)

IF SO, DESCRIBE THE CONFIRMATION.

The sample logbook and removal procedures were recorded and checked by TMP personnel.

Block 4 **SOURCES OF INFORMATION:** (check the appropriate box/es & number the source/s)

No available information	<input type="checkbox"/>	_____	Analytical data	<input checked="" type="checkbox"/>	5	_____
Anecdotal	<input type="checkbox"/>	_____	Documentation about data	<input type="checkbox"/>	_____	_____
Historical process data	<input checked="" type="checkbox"/>	5	Disposal data	<input type="checkbox"/>	_____	_____
Current process data	<input type="checkbox"/>	_____	Q.A. data	<input type="checkbox"/>	_____	_____
Areal photographs	<input type="checkbox"/>	_____	Safety analysis report	<input type="checkbox"/>	_____	_____
Engineering drawings	<input type="checkbox"/>	_____	D&D report	<input type="checkbox"/>	_____	_____
Unusual Occurrence Report	<input type="checkbox"/>	_____	Initial assessment	<input checked="" type="checkbox"/>	8	_____
Summary documents	<input checked="" type="checkbox"/>	5	Well data	<input type="checkbox"/>	_____	_____
Facility SOPs	<input type="checkbox"/>	_____	Construction data	<input type="checkbox"/>	_____	_____
OTHER	<input type="checkbox"/>	_____				

- Block 1: Although the estimate may be decidedly rough, it is necessary to provide some estimate of the quantity of hazardous substance/constituent at this source. If there is no source, then the answer to this question should be 0. (Caution: If there does not appear to be any contaminant present, then the obvious estimate must be 0 mg, but it is unlikely that a source containing this contaminant exists without some quantity of hazardous substance present.) A very precise explanation of HOW the quantity was calculated is essential if an estimate was used.
- Block 2: Consider the information sources that were used to determine the quantity of hazardous substance/constituent at the source and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium, or low), carefully explain the reasoning that led to the evaluation.
- Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.
- Block 4: Check each appropriate box. As a box is checked, write the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

Question 8. Is there evidence that this hazardous substance/constituent is present at the source as it exists today? If so, describe the evidence.

Block 1 Answer:

No evidence exists that this hazardous substance/constituent is present at levels that require action at the source as it exists today. The tank has been removed and the site has been backfilled with clean soil.

Block 2

How reliable is/are the information source/s? High Med Low (circle one)

EXPLAIN THE REASONING BEHIND THIS EVALUATION.

Sampling done during the excavation of the tank indicated the site was not contaminated above action levels.

Block 3 Has this INFORMATION been confirmed?

Yes

No

(circle one)

IF SO, DESCRIBE THE CONFIRMATION.

Lab results confirm the site is not unacceptably contaminated. Recorded observations from a site visit conducted February 1991 indicate the site appears clean and level, and that the COCA CFA-23 sign is posted.

Block 4 **SOURCES OF INFORMATION:** (check appropriate box/es & number the source/s)

No available information	[]	_____	Analytical data	[X]	5	_____
Anecdotal	[]	_____	Documentation about data	[]	_____	_____
Historical process data	[X]	5	Disposal data	[]	_____	_____
Current process data	[]	_____	Q.A. data	[]	_____	_____
Aerial photographs	[]	_____	Safety analysis report	[]	_____	_____
Engineering drawings	[]	_____	D&D report	[]	_____	_____
Unusual Occurrence Report	[]	_____	Initial assessment	[X]	8	_____
Summary documents	[X]	5				
Facility SOPs	[]	_____	Well data	[]	_____	_____
OTHER	[X]	1	Construction data	[]	_____	_____

- Block 1: So far, none of the questions has specifically required an analysis of present conditions. The analysis so far may indicate the concentration levels of the specific contaminant as a result of a spill 20 years ago. Those levels may or may not be relevant, today. Does the literature search indicate that the hazardous substance/constituent is present at the source today? If not, account for the disappearance of the contaminant (eg volatilization).
- Block 2: Consider the information sources that were used to determine whether the hazardous substance/constituent exists at the source as it exists today and evaluate your sense of their credibility. Do you feel confident that the information is correct? Are you really unsure about the merits of the source? Are there so many independent sources of information that, even though any one of them may not be really convincing, together they are believable? Once an evaluation has been made (high, medium, or low), carefully explain the reasoning that led to the evaluation.
- Block 3: Are there several independent sources of information that support the same conclusion? If so, describe them.
- Block 4: Check each appropriate box. As a box is checked, write the source reference on the associated line. (Be sure to list all references in the REFERENCES section.) This section is designed to serve as a "sanity check" for block 2. If there are seven different sources of information all indicating the same findings, then the certainty should be high unless there are qualifying circumstances. Seven different sources supporting several different conclusions probably indicates low reliability, unless there are other, overriding factors. Only one source of information could offer high reliability, depending on that source. No formula exists for evaluating confidence in this qualitative analysis, so carefully analyze the check marks from block 4 with respect to the assessment of block 2. Re-evaluate the assessment of block 2 if necessary.

REFERENCES

1. M. L. Paarman⁷, Waste Management, to W. R. Pigott, Waste Management, "CFA COCA Sites," August 2, 1991.
2. M. L. Paarman⁷, Waste Management, to W. R. Pigott, Waste Management, "Disposal of Piping From Removed CFA Underground Storage Tanks," ~~August 2, 1991~~ July 23, 1991
3. Private communication with Ted Evans, Waste Management, August 2, 1991.
4. Private communication with Dave Hood, Waste Management, August 6, 1991.
5. K. M. Ludi, Tank Removal Summary for CFA 641-1, Draft.
6. K. M. Ludi, Tank Removal Summary for CFA 641-1, February 26, 1991.
7. D. N. Hood to J. E. Coody, "Status of UST Removal at CFA Facility for Week Ending 10/19/90," December 14, 1990.
8. EG&G Idaho, Initial Assessment Form, October 8, 1986.



Figure 2. Location of COCA Unit CFA-23.

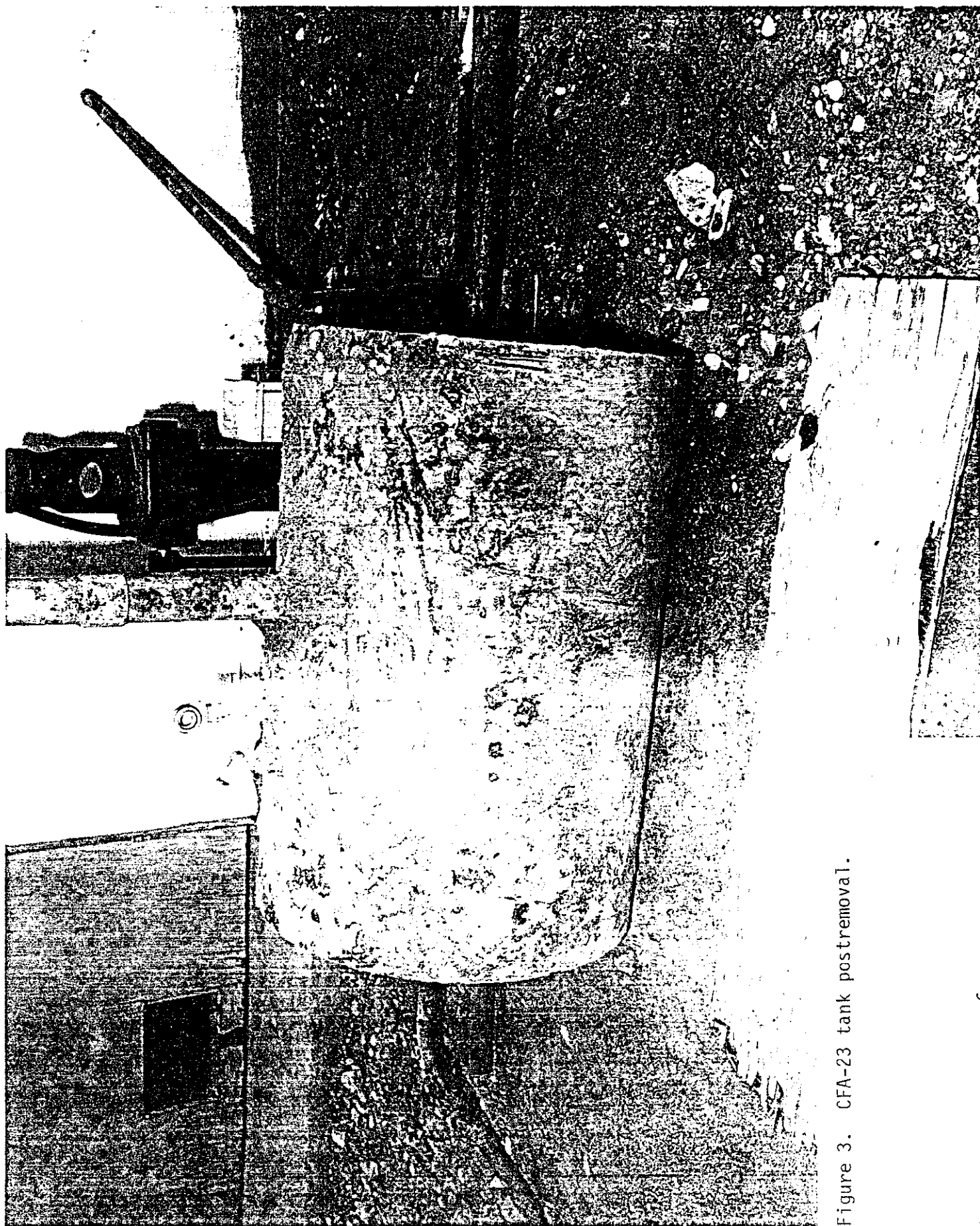
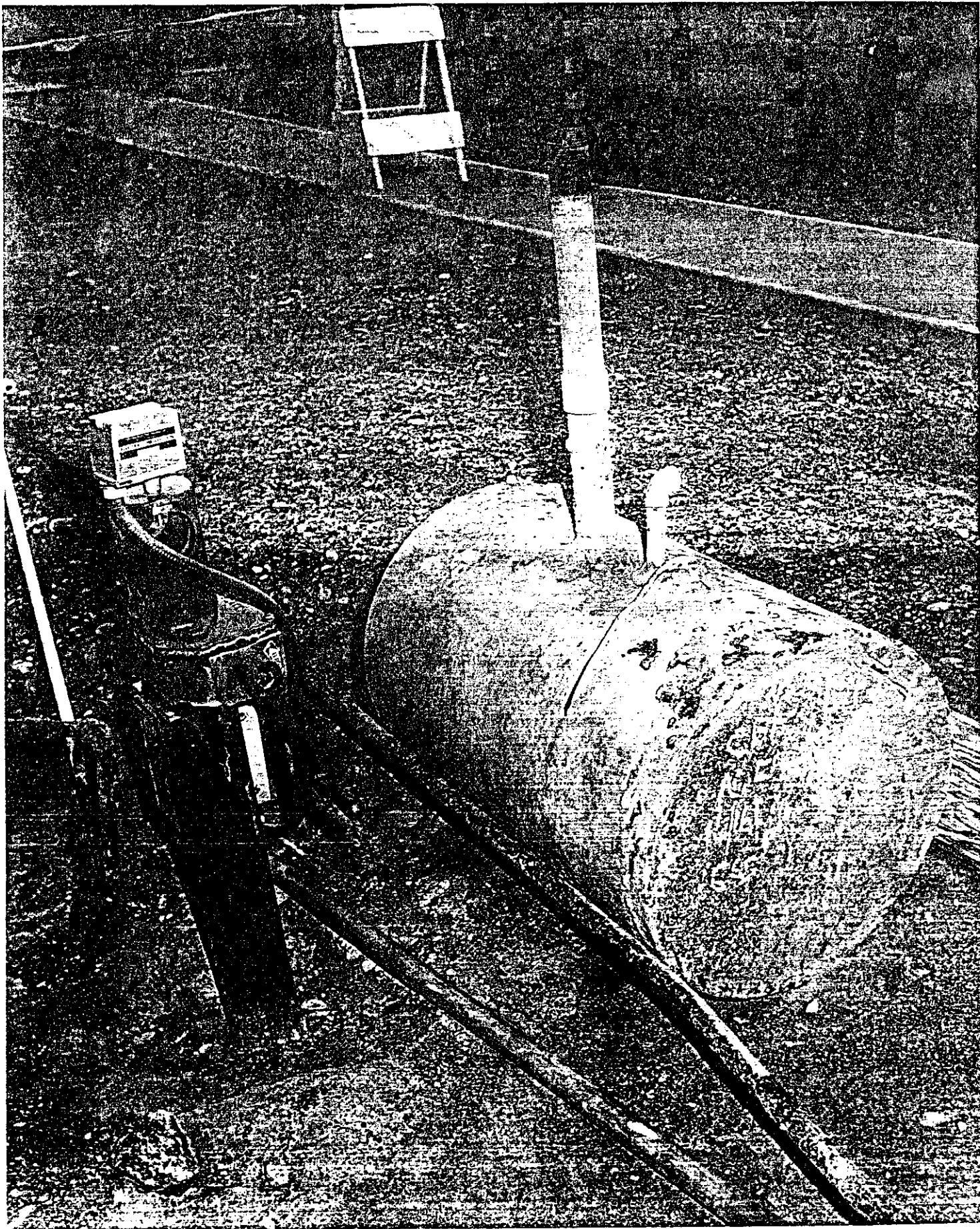


Figure 3. CFA-23 tank postremoval.



Figure 4. CFA-23 excavation site after tank was removed.



NO FURTHER ACTION DETERMINATION

The U. S. Department of Energy, U. S. Environmental Protection Agency-Region 10, and the State of Idaho have completed a review of the referenced information for CFA-23 hazardous site, as it pertains to the INEL Federal Facility Agreement of May 23, 1991. Based on this review, the Parties have determined that no further action for purposes of investigation or study is justified. This decision is subject to review at the time of issuance of the Record of Decision.

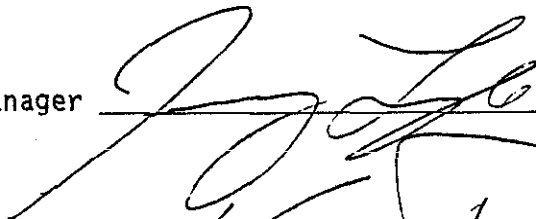
Brief Summary of the basis for no further action:

All three (3) Remedial Project Managers (RPMs) concurred that, based on sampling data available, historical information presented, and the extremely improbable potential for amounts of hazardous substances to have been released which would cause groundwater contamination, no further action should be pursued at CFA-23.

References:

Decision Statement by DOE RPM dated August 7, 1991.
Decision Statement by EPA RPM dated August 7, 1991.
Decision Statement by the State of Idaho RPM dated August 7, 1991.

DOE Project Manager



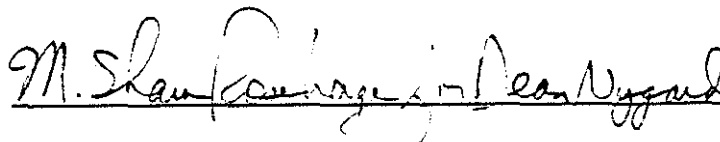
8/5/91
date

EPA Project Manager



8/8/91
date

IDAHO Project Manager



8/8/91
date

DECISION STATEMENT
(BY EPA RPM)

DATE RECD:

8/7/91

DISPOSITION:

CFA-23 represents a potential source area limited to ≤ 55 gal diesel w/ \sim less than 10% BTEX. Soil cleanup level for benzene is 20 ppm. Groundwater cleanup level at MCL is 5 ppb. Associated piping and tank removed in 10/90 area backfilled with clean soil. Estimated source area 2.16 yd^3 if 30 gal residual liquid can be assumed to be that remaining. If we assume 1 ppm benzene in soil as a conservative starting point. Given solubility exceeding 1 ppm in water there is no basis for further concern.

I agree that No Further Remedial Action is necessary for this site

DATE:

8/7/91

PAGES (DECISION STATEMENT):

NAME:

Wayne Pierce

SIGNATURE:

Wayne Pierce

DECISION STATEMENT
(BY STATE RPM)

DATE RECD:

8/7/91

DISPOSITION:

State agrees that no further
remedial action is necessary at
the CFA-23 site, based on
the same information stated
in the EPA decision statement
and Decision Documentation
Package submitted 8/7/91.

DATE: 8/7/91

PAGES (DECISION STATEMENT):

NAME: Shawn Rosenberger

SIGNATURE: Shawn Rosenberger for Dean Nygard

for Dean Nygard

DECISION STATEMENT
(BY DOE RPM)

DATE RECD:

DISPOSITION:

Based on sampling data available, historical information presented, and extremely ~~un~~ improbable potential for ~~sig~~ amounts of hazardous substances to have been released which would cause groundwater contamination, I believe no further action should be pursued on CFA-23.

DATE: 8/07/91

PAGES (DECISION STATEMENT):

NAME: Lisa Green for

Jerry Lyle

SIGNATURE: Lisa Green for Jerry Lyle